CHAPTER 1

INTRODUCTION AND DESIGN OF THE STUDY
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1.1. Introduction

Paper is one of the significant discoveries that turned the history of the world around. Paper pervades all sectors of human activity from books to bullets and from morning newspaper to nuclear technology. From time immemorial, paper has played a key role in the evolution of civilization, and the importance of paper and paper products in the modern life is so obvious that no other product possesses such diversity of use. It is the basic medium of communication and dissemination of information. It helps the human beings in the development of education, reading, writing, storing, knowledge, quality of life, culture, and other sectors of the economy. Kids to kings, all human beings are using paper either directly or indirectly. It is very difficult to imagine modern life without paper. The fortune of paper industry is closely linked to the buoyancy in the economic development of a country. The per capita consumption of paper is often regarded as a barometer of the socio-economic progress of a country. It measures the living standards and openness of a society and its educational and intellectual attainments. Paper is, thus, recognized almost as a touchstone of growth in the developing countries.
India is the 15th largest paper industry in the world. It provides employment to 1.5 million people and contributes Rs 25 billion to the government’s kitty. The government regards the paper industry as one of the 35 high priority industries of the country. The paper industry is primarily dependent upon forest-based raw materials. The first paper mill in India was set up at Sreerampur, West Bengal, in the year 1812. It was based on grasses and jute as raw material. Large scale mechanized technology of papermaking was introduced in India in early 1905. Since then the raw material for the paper industry has undergone a number of changes and over a period of time, besides wood and bamboo, other non-conventional raw materials have been developed for use in the papermaking. The Indian pulp and paper industry at present is very well developed and established. Now, the paper industry is categorized as forest-based, agro-based and others.

1.2. Statement of the Problem

The 1991’s liberalization policy provided free access to capital, technology and market in order to encourage greater industrial efficiency and international competitiveness. The policy seeks to free the Indian industries from excessive Government regulations and control so as to allow freedom and flexibility in business decisions and for responding to
market forces. The policy initiatives have focused on the basic orientation of industries to benchmark it against the global standards.¹

However, the paper industry is facing several problems. Growth of paper industry in India has been constrained due to high cost of production caused by inadequate availability and high cost of raw materials, power cost, etc. The sharp rise of prices created a paper crisis in the country. Since then, the paper industry has been engulfed in a crisis due to variety of reasons, and has led a sub-optimal use of installed capacity. The financial performance of the paper mills has been highly unsatisfactory despite numerous facilities and fiscal concessions being provided to them.

Paper industry is highly capital intensive. To create the required additional capacity based on 75 per cent capacity utilization, an investment of roughly Rs. 40,800 crores would be required to meet the projected demand. The figure is really overwhelming and non-availability of adequate raw materials is one of the major constrains for the development of paper industry. The rapidly changing economic, technological and regulatory environment has affected the growth of Indian paper industry due to the poor availability of cellulose raw materials; bagasse, straw and waste paper have inherent drawbacks of limited and scattered availability of suitable technology for conversion into higher grade pulp. This makes quite

imperative to have a sustainable supply of forest based raw materials, which account for 45 per cent of raw materials used. Large integrated pulp and paper mills with installed capacity of more than 20,000 tonnes per annum use bamboo hardwoods and softwoods. To meet part of its raw material needs the industry has to rely on imported wood pulp and waste paper.

The energy scenario in the country is quite troubling and depressing. The growth of paper industry is largely affected by inadequate availability of energy i.e. coal and power. The pulp and paper industry is highly energy intensive. Of the total manufacturing cost of the industry, power and fuel alone constitute 25 per cent. Paper industry in India is among the oldest, the first unit having been setup more than a century ago. The paper mills have remained technologically outdated. The costs of modernization may be as high as Rs 10,000-15,000 per tonne of installed capacity. Due to high capital intensive nature, the internal savings are not adequate to finance the gigantic technological upgradation programme. As a result of mounting cost of production, there is a gradual decline in return on the capital employed. Undisciplined investment in large mills and small mills is a reminder of the need for strict financial discipline.

Paper industry has to incur the wrath of environmentalists as it is among the 20 high polluting industries in India. Not only the paper industry has led to steady and progressive denudation of forests in India, but also has
been one of the major polluters of river water in India. Therefore, apart from facing high cost of raw materials and chemicals, the paper industry has also to grapple with the rising cost of effluent treatment.

Poor profitability is one of the problems of paper industry. Under capacity utilization, higher costs of production, industrial disputes, and financial mismanagement are some of the reasons for the poor profitability of the paper industry. The total manpower cost per tonne of product is quite high. The production per man in developed countries is nearly 10-15 times more than the production per man in India. Manpower cost in paper industry in India varies from 8 per cent to 16 per cent of the total production cost. The paper industry is one of the sectors most affected by the phenomenon of industrial sickness. As many as 194 mills are under BIFR and 60 mills (with a capacity of 880,000 tonnes) are closed. More mills are likely to close down if their viability is not proved.

Nearly one-fifth of total installed capacity in the Indian paper industry is out of production on account of industrial sickness. 12 large paper mills have stopped production and over 100 small and medium paper mills have rolled down shutters on account of various reasons, notably obsolescence of plant and machinery, shortage of raw materials, low capacity utilization, inefficient management, infrastructural constraints,

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industrial disputes and financial problems. In capacity utilization, initially the industry maintained a fairly high degree, a capacity utilization of 96.5 per cent in 1950-51. Since 1971, however, the capacity utilization level declined year after year with slight fluctuations. In 1997-98, the capacity utilization was very low at 53.3 per cent.

In view of the intensive drive for literacy and consequent rise in demand for paper in the coming years and high capital costs required for new investments, it is prudent to ensure that the available installed capacity is utilized fully. Rather than fresh-investments, the task of renovation and modernization of existing capacity needs to be seriously considered. Poor infrastructure, too many administrative hurdles, tedious bureaucratic methods, lack of commitment to innovation, high cost of production, poor productivity, poor instrumentation, poor recycling of waste paper, recovery of chemicals from agro-based black liqueur, decolourisation and detoxification, air pollution, poor transport facilities, regional barriers, political interference and competition from global competitors are other problems faced by the paper industry and these problems have significant effect on its financial performance. In this context, the researcher has

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undertaken this study to have an insight into the financial performance of the paper mills in Tamil Nadu.

1.3. Need for the Study

Paper being an important medium of communication, its demand is highly correlated with the overall performance of a country and the state of literacy rate. So, a study on paper industry is quite inevitable. Studies on financial performance acquire great significance in the context of growth in the developing economies. These economies are characterized by acute scarcity of resources, particularly capital and must use the available resources as best as they can. Also, generation of surplus resources which plays a pivotal role in their growth depends crucially on the efficiency with which resources are used. When capital is invested appropriately, it leads to better financial performance. Therefore, the study of financial performance is considered an important job of an industry. Evidently, the present study on financial performance of the select paper mills would be of much interest, as it will bring out how effectively the financial resources are employed. It also helps to identify those variables that are responsible for better financial performance of the paper industry.

1.4. Review of Literature

This part briefly reviews the studies on different aspects of financial performance connected directly and indirectly with the present study. The
A review of literature is highly useful to design the present study as it indicates the research gap in the study of financial performance of the paper mills. Measuring the financial performance of the corporate sector has always been an area of controversy from the point of view of the government, shareholders, investors, creditors, employees and other stakeholders. Many studies on financial performance have been made in the past, which mainly focus on large enterprises but they do not deal with the financial performance of the paper mills. Some of the important studies conducted on the financial performance are reviewed here.

Ajit Benerji (1975)\(^5\) analyzed the productivity of paper industry. The relevant data were collected for the period of 1946-1964. He used Cobb-Douglas production function and studied the capital and labour co-efficient. The study concluded that there was an increase in return to scale of the paper industry.

Ramamoorthy (1978)\(^6\) stresses that profitability and solvency is the twin goals of working capital management. He states that the firm's survival and growth depend greatly on its ability to achieve these goals. If liquid assets can pay off the current liabilities, financial strength can be created and it can sustain its reputation.


Gupta (1979), in his work entitled “Financial Ratios as Forewarning Indicators of Sickness,” has made an attempt to study 41 Indian textile companies, of which 20 are sick and 21 are non-sick companies. He has applied 63 financial ratios and concluded that 2 ratios, viz., earning before depreciation, interest and taxes to sales and operating cash flow to sales are significant.

Brahamananda (1982) analyzed the productivity of Indian industries including paper industry during the period of 1950-1951 to 1980-1981 on the basis of secondary data collected from central statistical organization. He concluded that the productivity of paper products increased.

Lata Arun Reddy (1983) analyzed the profitability of Indian paper industry with reference to the financial statistics of joint stock companies in India during the period of 1950-1951 to 1973-1974. The major objective of the study was to examine the relationship between growth and profitability. He concluded that paper industries exhibited a strong positive correlation between growth and profitability.

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Arya (1984)\textsuperscript{10} examined the cost function in 12 cement companies for the period 1951-1970, on the basis of secondary data collected from the annual reports. He found that there was no significant relationship between capacity and average total cost. The rate of increase of input prices during the seventies was much more than the rate of increase of output prices. He examined the self-sufficiency of the Indian cement industry. He stated that the acute shortage of cement, frequent price controls, low capacity use, black marketing and elusive targets plagued the cement industry. The technological obsolescence, low productivity and low returns had all formed a vicious circle. He pointed out that some of the factors that affected the growth of cement industry were non-availability of good quality coal, power, technological obsolescence and frequent price controls. He argued that if the defects were rectified, the cement industry could attain self-sufficiency.

Arya (1984)\textsuperscript{11} made an attempt to study the production function of Madras Cements during the period of 1961 to 1974. He used Cobb-Douglas production and labour alone to explain for more than 63 per cent change whereas capital alone accounted for very little changes in physical output. Taken together, both are significant variables and more than 94 per cent


change in output was explained by these two variables. He concluded that labour was relative factor of production i.e. marginal addition of labour could raise output significantly; an increase in material inputs which slight addition of labour and improvement in utilization of capital could raise output significantly; the unit was operating with increasing returns to scale; and increasing in output due to technical change.

Rathinam (1985)\textsuperscript{12} analyzed cost of production and capital structure of the Seshasayee Paper and Boards. He concluded that there had been a sudden increase in wage cost due to upward pay revision resulted in higher cost of production leading to erosion of profits.

Kumar (1985)\textsuperscript{13} in his study on “Corporate Growth and Profitability in the Large Indian Companies,” examines the relationship between profitability and growth in 83 large companies in India’s corporate sector during 1968-69 to 1978-79. The study reveals the significant inter-industry differences in the growth process of firms under study. The very low value of R Square in all the cases shows that only a small fraction of the growth of firms in Indian corporate sector has been caused by profitability.


\textsuperscript{13} Kumar, P. 1985. \textit{Corporate Growth and Profitability in the Large Indian Companies}, Margin, July, Vol.17, No.4.
Kapadia (1985)\textsuperscript{14} made a study to find out the contribution of taken over units, in the poor financial surpluses earned by public sector enterprises during 1978-83. He found that taken over units accounted for 18 per cent of total investment, 22 per cent of total sales turnover and 45 per cent of employment of all central government enterprises. He found that 48 taken over units were in red during the period of study amounting to Rs. 936 crores. He suggested measures for no-more takeovers of sick industrial units just for the sake of protecting the employment where it was mostly non-viable to achieve the commercial results.

Parameswari (1986)\textsuperscript{15} studied the large and medium public limited companies including paper industries during the period of 1975-1976 to 1978-1979 with the relevant data and concluded that paper industries were experiencing increasing returns to scale with reference to total cost function.

Pushpalatha (1986)\textsuperscript{16} analyzed the performance of Bhadrachalam Paper Board, located in Andhra Pradesh. He studied the performance of the company in terms sales, capacity utilization, employment, wages and salary, loans and advances, raw materials and dividend distributed to the shareholders. The sales, employment, wages and salary and bonus for the

\textsuperscript{14} Kapadia, M.S. 1985. Public Sector's Poor Financial Returns: Place for taken Over Units, Financial Express, No.7, p.5.


employees, expenditure on raw materials had been steadily increasing over five years. The capacity utilization had been increasing steadily up to 1982, where it had stabilized at 120 per cent. But, the company had been experiencing huge deficit except in the year 1982. He observed that its financial position was not quite encouraging from the shareholders' point of view.

Balachandran (1987)\textsuperscript{17} analyzed the cost of production, inventory and value addition in Indian paper industry. He concluded that the depreciation cost ranged between 50 per cent of the gross working capital of the paper industry.

Naidu (1987)\textsuperscript{18} analyzed the growth of paper industry in India over the period from 1959-60 to 1981-82. He found that the growth of gross value addition which was 10.4 per cent in paper and paper product industries during 1959-60 to 1965-66 has decreased to 7.2 per cent in 1966-67 to 1979-80. A similar trend was witnessed in output also.

\textsuperscript{17} Balachandran. 1987. \textit{A Study of Cost of Production, Inventory and Value Added in Indian Large Public Companies}, Unpublished M.Phil Dissertation Submitted to Bharathiar University.

Tata (1988)\textsuperscript{19} has examined the overall performance of paper and paper product industries. He suggests that the demands for paper and paper products can be easily met by improving the capacity utilization of the industries and hence there is no need for licensing more units. He concludes that the small scale paper and paper product manufacturing units constitute nearly 50 per cent of total capacity.

Chandrasekar (1988)\textsuperscript{20} has analyzed the growth and structural change in India's paper industry during 1950-51 to 1984-85. He concludes that the growth of value addition in paper and allied industries has shown a decreasing trend.

Desai (1988)\textsuperscript{21} analyzed the capital and profitability of sixteen large scale paper industries. He concludes that return on capital employed was worked out at 6 per cent in 1983-84, when compared to 9.3 per cent in 1982-83. The net sales of companies improved by 9.8 per cent during corresponding period. Only 10 out of 16 companies had shown profits while the remaining had shown heavy losses.

\textsuperscript{19} Tata. 1988. Quarterly Survey of Industries, January, No.1 Economic Consultancy Services, Bombay.


Sivarama Prasad (1988) studied the working capital management in paper industry. The study was related to 21 select paper mills. The sample included nine large, five medium, and seven small scale paper mills. The first hand information for this study was obtained from the Chief Executives of these firms by using questionnaire. For a meaningful conclusion, the essential data for 10 years i.e. 1983-84 to 1992-93, were used. The study revealed that the working capital shared 47.2 per cent of the total net assets during the period 1984-93. The debt servicing capacity was found to be sick and the firms were not able to service their debts properly which resulted in cash shortage of the working capital. The result of the correlation analysis indicates that there was a close relationship between profitability and working capital.

Pandey and Bhat (1988) have analyzed the financial ratios of the Indian manufacturing industries, by taking 612 companies from 1965-66 to 1984-85. They have identified three groups of ratios, which contain the maximum amount of information on profitability and have applied these ratios to analyze only manufacturing and processing industries. The three groups of financial ratios are return on investment, sales efficiency and

equity intensiveness. There is a declining trend in profitability in relation to sales, shareholders' equity and total investment. The three groups of ratios show a consistent declining trend across most of the firms.

Nirmala Devi (1989)\textsuperscript{24} made an attempt to study the trend in productivity of cement industry in India during 1973-74 to 1987-88. There had been stagnation in cement production in 1970s. In 80s, however there had been a remarkable upward trend in production aided by the introduction of the dual pricing system in early 1982. She felt that the recent change in policy with regard to the industry might adversely affect the productivity trends of the industry. To analyze the trends in the productivity of cement, a linear trend had been fitted for the data. An increasing trend with a significant growth rate of 1.65 per cent during 1973-74 to 1987-88 was observed in the cement production in India. In 1973-74, the percentage change was significantly negative. In 1974-75 also the percentage change was negative. The cement production showed a continuous rise.

Sivaram Reddy and Mohan Reddy (1989)\textsuperscript{25} studied the paper industry during the year 1950-1986. Their study was aimed at tracing the origin, the historical development, the target achievement of capacity and production of paper mills during the First to Seventh Five Year Plans. The installed capacity, production, capacity utilization and problems and


\textsuperscript{25} Sivaram Reddy. C and Mohan Reddy, op.cit., pp.27-33
prospects of the Indian paper industry were assessed in this article. Indian paper industry had recorded an impressive development and had registered commendable progress during First and Second Five-Year periods. During the Third Five Year Plan, a sharp decline took place in the progress of paper industry. The target capacity was not fixed in the Fourth Five Year Plan period. In the Fifth Plan period, the growth of paper industry had a fall back once again. However, a good number of small paper mills were established by using non-conventional raw materials. In the Sixth Plan period, the target fixed for capacity was exceeded by 1.66 lakh tonnes, but the production target was shorten by 0.14 lakh tonnes. In the Seventh Plan period, target for capacity was exceeded by 1.83 tonnes. They noted that the relatively lower capacity utilization was due to un-remunerative operations, infrastructure difficulties, industrial unrest, obsolescence of machinery, government policy and market resistance.

Sankar and Sai (1990) made a comparative study on private and public sector undertakings with respect to their financial efficiency between 1986-87 and 1988-89. They found that private and public sector undertakings differed in creating a surplus to the extent of 9 per cent on sales. The capital employed in public sector undertakings showed a better performance. The profits earned in private sector were three times higher in

size of the equity than public sector. Capital structuring strategy and the accumulation of reserves helped the private sector to a high financial efficiency.

Nair (1991)\(^{27}\) made an attempt to study the productivity in the Indian cement industry. His study was based on identifying major problems and the prospects to solve them. He found that cement plants in India were one of the major contributors to air pollution. He pointed out that the pollution control was a social necessity, and effective devices should be installed to control air pollution.

Gopinath Pradhan (1992)\(^{28}\) examined the concentration in cement industry under new economic policy regime. He found that the concentration of the cement industry was changing in India, keeping in view of the recent changes in policy, which allowed it to operate in a less controlled environment. To show a better performance, its concentration must decline, so that the competition was initiated among a larger number of producers since the post-decontrol period precluded the possibility of collusive behaviour. He concluded that the concentration of the industry had been following a declining trend since the 50s. With the partial decontrol of the price and the distribution of cement in 1982, the rate of


decline had come down and the producers’ concentration might be increasing under the new policy.

Indrasena Reddy and Someshwar Rao (1996) \(^{29}\) conducted a study on working capital management in HCL. He used seven ratios and statement of changes in working capital. They concluded that the company’s working capital management was not up to the expected level. The working capital management should be improved by effective utilization and control of current assets.

Shankar (1996) \(^{30}\) discussed new working capital finance instruments like commercial paper, factoring, forfeiting, debt securitization and norms for working capital finance in detail. He recommended a new concept of working capital management called zero working capital which means at all times the current assets shall equal the current liabilities. This concept would ensure a smooth and uninterrupted working capital cycle, and it would put pressure on the finance managers to improve the quality of the current assets at all times which means current ratios is one and quick ratio below one.

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Debasish Sur (1997)\textsuperscript{31} conducted a study on working capital management in Colgate (Palmolive) India Limited. He observed that working capital management was not satisfactory.

Nageshkumari (1998)\textsuperscript{32} made a comparative analysis of compound growth of installed capacity production and capacity utilization among Indian industries as a whole and nine cement units in Tamil Nadu for an eight-year period from 1988-89 to 1995-96. The compound growth rate of India’s installed capacity was compared to all the units in Tamil Nadu. Dalmia, Sankari Drug, Alangulam, Ariyalur and Tamil Nadu Cements had zero compound growth rate of installed capacity. Regarding growth rate of production, except the ACC unit, all other units had low rate of production.

Hyderabad (1999)\textsuperscript{33} found that long-term funds were used for working capital, and also he observed that flexibility and adjustment in the requirement of working capital depended on the availability and cost of working capital.


\textsuperscript{32} Nageshkumari, 1998. Back Ground Paper of National Seminar, Karpagam Arts and Science College, Coimbatore.

Jane Cote et al. (1999) have stated that lack of attention to the working capital management would ultimately contribute to the demise of a once profitable organization. Failure to manage cash conversion cycle will cause a firm's demise, though the traditional liquidity ranges are within the acceptable ranges during the period. They have brought the effects of the current assets and current liabilities accounts into a single merchandising ratio, which provides a measure of the net effect of a firm's working capital management strategy. Merchandising ratio, according to them, is a composite of the three turnover ratios, which is computed, as merchandising ratio is the sum of average receivables turnover, inventory turnover, and average payable turnover, which can also be expressed in days. They suggest that analysis of the trends in merchandising ratio will discriminate clues about changes in strategy or managerial skill.

Seetharaman (2000) made a study on the financial performance of public sector enterprises in India with reference to select heavy and medium engineering enterprises. This study covered a period of 21 years from 1975-76 to 1995-96. He used tools like capital-output ratio, value added, capital formation, trends in productivity and management of funds and productivity. The various indicators favoured the BHEL of heavy


engineering and BEL in case of medium engineering undertakings and their performance was found to be good during the study period. He stated that other sample units did not have progressive performances.

Prasad (2001)\textsuperscript{36} conducted a study on the paper industry. He found that the chief executives properly recognized the role of the efficient use of working capital liquidity and profitability, but in practice they could not achieve it. He identified that 50 per cent of the executives followed budgetary method in planning working capital, and the working capital management was efficient due to sub-optimum utilization of working capital.

Saravanan (2001)\textsuperscript{37} made a study on the working capital management in 10 select non-banking financial companies. He concluded that the sample firms had placed more importance on the liquidity aspect compared to that of the profitability aspect.

Dulta (2001)\textsuperscript{38} observed that the various components of working capital of Horticulture Produce Marketing Corporation had not been used.


efficiently and the working capital position had worsened continuously during the period of the study.

Debasish Sur et al. (2001)\(^{39}\) studied the association between the liquidity and profitability of Indian private sector enterprises as a case study of aluminum producing industry. They have identified a high degree of positive correlation between liquidity and profitability of the select companies. They also observed that liquidity variables together influenced the profitability of the select companies.

Ashish K Rastogi et al. (2001),\(^{40}\) in their study on working capital management in oil industry in India, found that liquidity position of Bharat Petroleum Corporation Limited and Hindustan Petroleum Corporation Limited was not satisfactory. Bharat Petroleum Corporation Limited and Hindustan Petroleum Corporation Limited had better inventory turnover in days in comparison with the industry average and Indian Oil Corporation Limited which had performed poorer than industry average. The average collection period was low at 9.08 days for the industry. Hindustan Petroleum Corporation Limited had the best performance of 4.29 days as average collection period. In the area of working capital management, the


performance of Bharat Petroleum Corporation Limited and Indian Oil Corporation Limited was not good due to decline in the average working capital turnover ratio.

Sahu (2002)\(^{41}\) investigated the usefulness of current and quick ratios and built a model involving those ratios to determine whether liquidity management process in Indian paper industry was effective or not. He concluded that most of the paper producing companies in India had been caught in a vicious down cycle facing a threat to their viability.

Birla (2002)\(^{42}\) believes that cement and viscose staple fiber will be the key growth drivers for the company in future. In 2002, these two businesses together accounted for 81 per cent of net revenues and 91 per cent of operating profit. He is confident that both will continue to score well even in the future.

Suganaya Devi (2003)\(^{43}\) made a study on the financial performance of the India Cements Limited during. She found that the overall performance of the company was satisfactory. But considering the liquidity position of the company, it was not satisfactory. She suggested that some


changes in investment policies could be made to improve the liquidity position of the company.

Nirmala (2003)\textsuperscript{44} pointed out that the financial statement analysis of the India Cements Limited would able to understand the financial position and performance of the company. She noted that the liquidity and profitability position of India Cements Limited was average and they had maintained the standard level of ratios.

Annual Survey of Industries (2003)\textsuperscript{45} reveals the average debt-equity ratio of all listed companies excluding banks. The average debt-equity ratio is 1.03. About 4.9 per cent of the companies are totally debt free and about 32 per cent have debt-equity up to 5.22 per cent. Thus, around 58 per cent of the companies have debt-equity of up to 27 per cent. Generally speaking companies having high debt-equity are loss making companies.

Maheshwari (2003)\textsuperscript{46} points out that comparative balance sheet of two or more different dates can be used to compare assets and liabilities and to find out any increase or decrease in those items. Thus, such balance sheets are very useful in studying the trends in an enterprise.


\textsuperscript{45} Annual Survey of Industries, Government of India Publications, 2003,

Parasuram (2004)\textsuperscript{47} has studied the working capital practices of the leading pharmaceutical companies. The companies have been ranked in the descending order of their sales turnover and the top 50 companies have been taken up for his study. Further, in order to check for relationship between the credit period given by the companies and their actual performance in terms of sales and profitability, the top ten companies have been taken up separately. He concludes that the working capital management practices are seen to be quite different for the top ten companies compared to others.

Chakraborty (2004)\textsuperscript{48} stated that the conventional method of measuring liquidity would not be sufficient to cover the extended view of liquidity and new framework must be developed to cover the analysis of amount and trend of internal cash flow, which was the better proposition to focus on a firm's liquidity position. He concluded that this was definitely a better approach to measure liquidity over the conventional method of ratio analysis.


Reddy and Patkar (2004)\textsuperscript{49} studied the size and components of liquidity management in factoring companies. They studied the correlation between liquidity and profitability and concluded that the sundry debtors and amount due to creditors were the major components of current assets and current liabilities respectively and also these determined the size of the working capital.

Achilleas Zapranis et al. (2006),\textsuperscript{50} through their study on “Forecasting Corporate Failure with Neural Network Approach: The Greek Case,” have stated that the recent developments in the field of non-parametric statistical analysis have established neural networks as an efficient approach to identify the complicated relationships in multidimensional data sets, without making a prior assumption regarding the nature of these relationships. They have contrasted the neural networks approach with multivariate discriminate analysis in predicting corporate failure in Greece. They have seen that neural networks outperform the linear approach, within the sample average classification rate of 95%. The equivalent in sample figure for multivariate discriminate analysis is 86.5% and the increased classification rates of neural models can be attributed to


their improved ability to classify correctly the problematic firm. The most important variables in the neural network model appear to be current asset/total assets, cash and cash equivalent/current assets and total debt/stock holders' equity.

The above review of literature shows that there have been studies on financial performance of public or private companies. The studies made on paper mills have not included the entire aspects of the financial performance. Hence, a careful and exhaustive investigation is essential in this regard. With this background, the present study makes an attempt to fill in the research gap in these areas. It becomes mandatory on the part of the researcher to limit himself to only two paper mills and that too for a period of ten years from 1998-99 to 2007-08.

1.5. Objectives of the Study

The aim of the study is to make an objective assessment of the financial performance of the select paper mills in Tamil Nadu. The following are the broad objectives of the study:

1. To study the origin and growth of the paper industry in India in general and Tamil Nadu in particular

2. To analyze the liquidity position of the paper mills and thereby analyze the short-term solvency
3. To appraise the long-term solvency and thereby to focus on the paper mills' long term indebtedness to funding agencies

4. To examine the activity parameters of the paper mills in Tamil Nadu

5. To study the profitability position of the paper mills, as changes in profitability indicate changes in efficiency

6. To suggest suitable measures to improve the financial performance of the paper mills in Tamil Nadu.

1.6. Operational Definitions

Financial Performance

Financial performance refers to the present state of the select paper mills with respect to liquidity, long-term solvency, activity and profitability.

Liquidity

Liquidity refers to the ability of the select paper mills to meet their current obligations as and when these become due.

Long term Solvency

The term “long term solvency” refers to the ability of the select paper mills to meet their long-term obligations.
Activity

Activity is the effectiveness with which the select paper mills manage their resources. It is also called “turnover” because it indicates the speed with which assets are turned over into sales.

Profitability

It refers to the ability of the select paper mills in making the profits in relation to the capital employed and sales.

1.7. Testing of Hypotheses

The study is based on the formulation of the following null hypotheses. The validity of them has been tested with the available data through appropriate analysis.

Ho₁: There is no significant difference in the liquidity ratios between the select paper mills in Tamil Nadu.

Ho₂: There is no significant difference in the long term solvency ratios between the select paper mills in Tamil Nadu.

Ho₃: There is no significant difference in the activity ratios between the select paper mills in Tamil Nadu.

Ho₄: There is no significant difference in the profitability ratios between the select paper mills in Tamil Nadu.
1.8. Scope of the Study

This study has been undertaken to assess the financial performance of the select paper mills. The present study is confined to only two paper mills, namely, the Tamil Nadu Newsprint and Papers Limited (a State Government undertaking which is located in Kakithapuram, Karur), and Seshasayee Paper and Boards Limited (a private sector enterprise which is located in Pallipalayam, Erode). The study focuses its attention only on four key areas of financial management, namely, liquidity, long-term solvency, activity and profitability.

1.9. Period of the Study

The study covers a period of 10 years starting from 1998-99 to 2007-08. The period is considered sufficient to reveal the short and long-term fluctuations.

1.10. Methodology

The study is empirical in nature with a focus on assessing the financial performance of the paper mills from the point of view of liquidity, long-term solvency, activity and profitability. As on 31.03.2007, there are 8 paper mills in operation in Tamil Nadu, of which there are only two large scale paper mills namely, the Tamil Nadu Newsprint and Papers Limited, and Seshasayee Paper and Boards Limited. The two large scale paper mills
only were selected for the present study. The study encompasses primary and secondary data. For collecting the primary data, personal discussions were held with the officials of the select paper mills. The secondary data were extracted from the published annual reports of the study units for a period of ten years. These reports are the financial statements, books of accounts, minutes, audit reports, annual reports, and circulars. Literature relating to the study was gathered from published reports, journals, magazines, books, etc. The collected data were analyzed and interpreted as intelligibly as possible to highlight the divergent activities related to the financial performance of the select paper mills.

1.11. Framework of Analysis

The data have been analyzed with the help of different accounting and statistical techniques such as ratios, student t-test, co-efficient of variation, growth rates, inter-correlation analysis, multiple regression analysis, least square analysis and Altman Z score. The ratio analysis has been employed to find out the liquidity, long-term solvency, activity and profitability positions of the paper mills. Student t - test has been employed to find if there is any significant difference in the liquidity, activity, long-term solvency and profitability positions between the select paper mills. The co-efficient of variation has been employed to test the consistency of the financial ratios of the paper mills. The inter-correlation analysis has
been employed to find out the interrelationship among the liquidity, long-term solvency, activity, and profitability ratios of the paper mills over the study period. The multiple regression analysis has been used to find out the impact of the activity ratios on the profitability ratios of the paper mills. The least square analysis has been employed to find out the anticipated trend value of the working capital of the paper mills. Altman Z score has been used to find the overall financial health of the select paper mills. For the purpose of carrying out the analysis, the data available in the financial statements have been regrouped and rearranged.

1.12. Limitations of the Study

As stated earlier, a period of ten years from 1998-99 to 2007-08 has been selected for this study. Because of the constraints of time, two paper mills alone have been selected and studied. This study is also restricted only to the financial performance aspects of the select paper mills.

1.13. Scheme of the Report

The thesis has been arranged in seven chapters.

The first chapter, “Introduction and Design of the Study,” presents introduction, statement of the problem, need of the study, review of literature, objectives of the study, operational definitions, testing of
hypotheses, scope of the study, period of the study, methodology, framework of analysis, limitations of the study and scheme of the report.


The third chapter, "Liquidity Position of the Paper Mills," highlights the liquidity position of the sample units.

The fourth chapter, "Long term Solvency and Indebtedness," highlights the long-term solvency position of the select paper mills.

The fifth chapter, "Activity Parameters of the Paper Mills," appraises the efficiency of the select paper mills in the use of financial resources.

The sixth chapter, "Profitability Analysis," highlights the profitability position of the select paper mills.

The seventh chapter presents a summary of findings, suggestions and conclusion. It offers suitable suggestions for improving the financial performance of the select paper mills.